

It is further contemplated that the apparatus may further include an activity detection system configured to provide an indication to the communication system upon a period of inactivity between the first communication device and the second communication device. The sequence signal may comprise an M-sequence. In one configuration, the signal processor is configured to compare points of correlation, if any, of the correlated signal, to a threshold signal to determine if the first communication device is requesting a restart of communication. The correlation may comprise cross correlation. The period of inactivity is intended to at least reduce the power consumption of a communication system.

In one embodiment, a method for reducing power consumption of one or more communication devices during periods of inactivity comprises detecting a period of inactivity followed by entering into a mode of reduced power consumption. Thereafter, receiving a request to resume communication and generating a sequence signal in response to the request. The operation then transmits the sequence signal to a remote location to initiate communication.

In various embodiments the method further includes monitoring and receiving signals at a remote location and correlating received signals to analyze the correlated signal to determine if the received signal qualifies as a request to resume communication. In one embodiment the period of inactivity comprises a period of time when the one or more communication devices are not exchanging data. The request to resume communication may comprise a request for data from a user of one or more

communication devices. In one embodiment the method further includes periodically sending a channel monitoring signal to periodically obtain updated information regarding the channel.

In one embodiment a method is provided for processing a received signal to determine if the received signal is a request to initiate a warm start operation. A received signal is filtered to create a filtered signal and thereafter, the filtered signal is correlating with a sequence signal to generate a correlated signal. The method then analyzes the points of correlation in the correlated signal to determine if the received signal is a request to resume communication. In one embodiment the analyzing comprises comparing the correlated signal with a threshold signal to determine if the correlated signal is a request for communication. The method may further include the step of initiation of a warm start operation if the analyzing reveals that the points of correlation match designated points of correlation. A finite impulse response filter may be used to perform correlation and the received signal may be a sequence signal.

In yet another embodiment a method for periodically modifying communication device settings to account for changes in a communication channel is provided and comprises sending a sequence signal from a first location to a second location over the communication channel. At the second location the signal is received and filtered. Thereafter, the signal is correlated at the second location with a duplicate of the sequence signal to obtain a correlated signal processed using the correlated signal to determine changes in the communication channel.

In one variation, the method further includes modifying the communication device settings, based on the processing, to account for changes in the communication channel.

The sequence signal may comprise an M-sequence type sequence signal. The communication channel may comprise one or more twisted pair conductors. In one

5 embodiment the method further includes sending a sequence signal from the second location to the first location, receiving the sequence signal at the first location, filtering the sequence signal at the first location, correlating the sequence signal at the first location with a duplicate of the sequence signal to obtain a correlated signal and processing the correlated signal to determine changes in the communication channel.

10           In another embodiment, a method for updating communication device settings to aid in executing a warm start operation may be provided. In such an embodiment the method comprises receiving a sequence signal and correlating the sequence signal. After correlation processing the correlated sequence signal is used to determine current channel characteristics and adjust the communication device settings based on the correlation results. This method may further including comparing the current channel characteristics to channel characteristics at a time prior to the processing and modifying the communication settings if the comparison determines the current channel characteristics are different than the channel characteristics at a time prior to the processing. In one configuration the adjusting assists in the warm start operation by adjusting the communication device settings to match current channel characteristics. A warm start 15 may comprise a resumption of communication device operation after a period of

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